Miami Dade Transit
People's Transportation Plan
Financial Capacity Analysis - *Draft*

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Introduction

PFM Dade Advisors, LLC (PFM) was contracted by Miami Dade County and Miami Dade Transit (MDT) to review and assess the original 20-year forecast financial feasibility associated with the implementation of the People's Transportation Plan (PTP) and to update the analysis with an independent set of assumptions and forecasting methodology. This report describes the underlying assumptions and the results of the updated financial analysis. PFM has worked collaboratively with staff from MDT and the County to develop the following 20-year as well as an extended 30-year forecast associated with the implementation of the PTP.

Specifically, this report addresses the following issues:

- MDT Operations
- MDT Capital Improvement Program and Costs
- MDT Capital Improvement Program Funding
- Additional MDT Funding Sources
- Financing Strategies
- Summary of Program Wide Results

MDT Operations

Prior to the People's Transportation Plan (PTP), MDT operated approximately 700 buses and provided approximately 27 million bus revenue miles of annual bus service. The PTP called for a total bus fleet increase to 1335 buses by 2007, with a corresponding increase in annual bus revenue miles to 44 million revenue miles, or 63 percent, by 2007. The actual increase to 43.5 million miles results in the need for only approximately 1191 buses. A bus service implementation schedule was provided by MDT planning staff which reflects 43.5 million miles and a total bus fleet of 1191 buses necessary to support this service. This level of service and bus fleet size is reflected in the financial results discussed throughout this report.

For financial forecasting purposes, operations associated with service levels prior to the PTP have been characterized as "existing service" and have been forecast separately from any new "expanded service" associated with the PTP Plan.

This section first describes the operating and maintenance (O&M) costs and operating revenues associated with MDT's continuation of "existing service" levels. Next, the O&M costs and operating revenues associated with the implementation of "expanded" bus and rail service is described. The combination of O&M costs for existing and expanded service reflects total O&M costs for MDT. The same is true for operating revenues.

Continued Operation of Existing Service

This section describes the projected O&M costs and operating revenues associated with the continuation of existing service for the following four modes of transit service throughout Miami-Dade County:

- Bus service
- Rail service
- Metro Mover
- Paratransit services

Operations and Maintenance Costs – Existing Service

O&M costs for each mode of service consists of "direct" O&M costs as well as "indirect" costs. For example, total O&M costs for bus service consists of direct bus service costs such as labor costs, fuel and vehicle maintenance costs, etc., as well as an allocated portion of general administrative costs (e.g. executive administration), or indirect costs. For purposes of this financial analysis, all O&M costs for MDT have been allocated to one of the four modes of service.

The FY 2004 Budget forecast served as the baseline for O&M cost projections. Baseline O&M costs for each mode of service were projected through 2023 using current information regarding recent labor contract pay increases effective through 2006, and more general growth rate assumptions for the long term. The growth rate assumptions for each service mode are presented below.

Exhibit 1 O&M Cost Growth Rate Assumptions				
	2004	**2005**	**2006**	**2007 & After**
Bus	6.19%	6.05%	5.63%	3.60%
Rail	6.19%	6.05%	5.63%	3.60%
Mover	6.19%	6.05%	5.63%	3.60%
Paratransit (STS)	9.00%	8.00%	7.00%	*
*Paratransit is forecast at the following rates: 2007 = 6%, 2008 = 5%, 2009 & After = 4%				

Based upon the FY 2004 baseline budget and the above growth assumptions, total operating costs for MDT's existing service are projected to increase from $300 million in 2004 to $615 million in 2023, or at a compounded annual growth rate of 3.91 percent. In addition to these O&M costs, MDT reimburses RTA & Tri-Rail for providing regional service. In 2004, these reimbursements are estimated to be $2.7 million and $1.9 million respectively. These reimbursement amounts are kept constant for forecasting purposes. A 20-year summary of MDT's total O&M costs for maintaining existing service through 2023 is provided below in exhibit 2.

Exhibit 2 Projected O&M costs by Mode (Inflated Dollars) – Existing Service			
O&M Cost by Mode	**2004-2013**	**2014-2023**	**20-Year Total**
Existing Bus Service O&M Costs	$ 2,161,707,902	$ 3,091,068,445	$ 5,252,776,347
Existing Rail Service O&M Costs	827,478,883	1,184,778,677	2,012,257,560
Metro Mover	276,542,253	395,951,330	672,493,583
STS Paratransit	397,495,735	597,818,843	995,314,577
Sub Total O&M Costs	$ 3,663,224,772	$ 5,269,617,295	$ 8,932,842,067
Additional O&M Costs			
RTA	$26,700,000	$26,700,000	$53,400,000
Tri-Rail	19,000,000	19,000,000	38,000,000
Total O&M Costs	**$ 3,740,710,862**	**$ 5,364,878,739**	**$ 9,105,589,601**

Operating Revenues

MDT receives operating revenues from numerous sources, including farebox, parking revenues, joint development revenues and advertising, among others. The FY 2004 Budget itemizes 11 different revenue categories which are considered directly generated (i.e. not including subsidy funds) revenues available to support operations. Directly generated operating revenues for each of these 11 categories have been projected and are described below.

While there are numerous revenue sources, the majority of directly generated revenues comes from passenger fares; either in the form of cash fares, pre-paid tokens or pre-paid transit passes. Passenger fares are a product of ridership and fare levels. As explained below, ridership has been growing slowly since 2000 and fares have not been increased since 1991. Consequently, MDT has seen declining farebox recovery ratios (i.e. the percentage of O&M costs recovered through fare revenues) in recent years. For example, the farebox recovery ratio for bus service has declined from 36 percent to 26 percent between 2000 and 2003, and for rail it has declined from 28 percent to 19 percent over the same period. As the farebox recovery ratio declines, a financial imbalance is created as O&M costs outpace

system generated revenues, requiring increasing subsidies from other revenue sources to meet operating demands.

There are two ways to increase passenger fare revenues and the farebox recovery ratio: (1) increase passenger boardings and (2) increase passenger fares. As explained below, passenger boardings are projected to increase at a low rate through 2023, with bus boardings increasing at an annual rate just above 1 percent. Consequently, officials at MDT and the County have determined it necessary to incorporate periodic fare increases into this PTP pro forma in order to correct the financial imbalance and to reconstitute MDT's farebox recovery ratios back to healthier levels. This effectively preserves other available revenues for capital expansion and increased system operations.

A description of MDT's current fare structure along with projected periodic fare increases is presented below in Exhibit 3. While there are some additional fare categories available through the pass program, for example, the fare structure described below is considered representational of MDT's overall fare structure and is used for the basis of passenger fare revenue projections. By assumption, the full bus cash fare is assumed to increase by $0.25 in 2007, then an additional $0.50 in 2012, 2017 and 2022, respectively. These fare increases, together with increased annual ridership, allow farebox recovery levels for bus service to increase and fluctuate between 27 and 43 percent through 2023.

Exhibit 3
MDT Passenger Fare Structure – Existing Fares & Periodic Increases

Fare Category	Current Fares 2004	Periodic Fare Increases 2007	Periodic Fare Increases 2012-22 (every 5 years)
Cash Fare			
Bus	$ 1.25	$ 0.25	$ 0.50
Rail	$ 1.25	$ 0.25	$ 0.50
Transfers to Bus	$ 0.25	$ 0.25	$ 0.50
Transfers to Rail	$ 0.25	$ 0.25	$ 0.50
Special Transportation Services Fares	$ 2.50	$ 0.50	$ 1.00
Tokens			
Bus	$ 1.00	$ 0.20	$ 0.40
Rail	$ 1.00	$ 0.20	$ 0.40
Prepaid Passes			
Monthly Transit Pass	$ 60.00	$ 5.00	$ 10.00
Monthly Discount Pass	$ 30.00	$ 2.50	$ 5.00

While fares are assumed to increase steadily through 2023, annual passenger boardings are projected to grow at a low annual rate. Our initial forecast methodology for passenger fares was based on detailed boardings forecasts and annual fare levels. However, in lieu of accurate passenger boarding forecasts, the annual growth rate in population for Miami-Dade County was used to forecast boardings growth through 2023. According to population forecasts prepared by the Bureau of Economic and Business Research at the University of Florida, population is projected to increase at an annual compounded growth rate of 1.2 percent through 2014. The growth rate for the final five years of the forecast was used to estimate continued population growth through 2023 which yielded a compounded annual growth rate of 1.17 through 2023. This, in turn, was used to estimate the annual growth rate for passenger boardings through 2023. It should be noted that MDT provided higher passenger growth rate estimates for STS services, with an annual growth rate of 3.05 percent. Updated passenger forecasts may be substituted these passenger boarding estimates as MDT receives results from their travel demand and ridership study prepared by the University of South Florida's Center for Urban Transportation Research (CUTR).

Exhibit 4 Annual Growth in Forecast Boardings by Fare Category	
Forecast Boardings by Fare Category	**Compound Annual Growth Rate**
Cash Fare	
Bus	1.17%
Rail	1.17%
Transfers to Bus	1.17%
Transfers to Rail	1.17%
Special Transportation Services Trips	3.05%
Tokens	
Bus	1.17%
Rail	1.17%
Prepaid Passes	
Total Pass Boardings:	1.17%
Monthly Transit Pass - Full Fare	1.17%
Monthly Discount Pass - Discount	1.17%

Passenger revenues were calculated by multiplying baseline passenger revenues by the annual growth in passenger fares and passenger boardings. This way, passenger revenues are linked to fares and boardings, though driven by growth rates rather than by actual boarding forecasts. The estimated fare revenues are presented below in Exhibit 6.

In addition to passenger fares, growth rate assumptions regarding the remaining operating revenue categories are described below.

Exhibit 5 Additional Operating Revenues – Assumed Growth Rates	
Parking Fees:	Constant increase of 3.06% plus $63,000 incremental increase with every new rail parking facility
TD Pass Revenue	5% increase every 5 years
TD Token Revenue	5% increase every 5 years
Medicaid Pass Revenue	5% increase every 5 years
Joint Development/ Permits/Leases	No Growth to 2010. $10 MM in 2010 through 2023 plus $100,000 per each new rail facility
Advertising/Others	No Growth
Bus feeder	No Growth

Based upon the FY 2004 baseline budget and the above operating revenue growth assumptions, the total directly generated operating revenues for MDT's existing service are projected to increase from $76 million in 2004 to $239 million in 2023, or at an annual compounded growth rate of 6.21 percent. A 20-year summary of total operating revenues for MDT's existing service through 2023 is provided below in exhibit 6.

Exhibit 6 Projected Operating Revenues – Existing Service			
	2004-2013	2014-2023	20-Year Total
Directly Generated Revenues			
Existing Bus Service Farebox	$ 544,114,966	$ 1,065,658,171	$ 1,609,773,138
Existing Rail Service Faregate	118,482,322	240,500,329	358,982,651
Pass Revenue	143,787,362	206,152,412	349,939,775
Rail Parking	15,240,164	18,621,943	33,862,107
STS Revenues	56,964,689	123,340,504	180,305,194
TD Pass Revenue	14,567,000	16,376,535	30,943,535
TD Token Revenue	1,654,395	1,859,906	3,514,301
Medicaid Pass Revenue	18,583,330	20,891,780	39,475,110
JD/ Permits/Leases	56,636,471	126,458,299	183,094,770
Advertising/Others	40,000,000	40,000,000	80,000,000
Bus feeder	9,658,000	9,990,000	19,648,000
Total Operating Revenue	1,019,688,700	1,869,849,880	2,889,538,580

Operation of Expanded Service

This section describes the O&M costs and operating revenues associated with implementing new bus and rail service through 2023. As noted above, expanded service assumes 43.5 million bus revenue miles and a total bus fleet of 1191 buses necessary to support this service. Additionally, MDT improved rail service in 2003 with decreased headways along existing rail corridors as well as new rail service associated with the construction and operation of new rail corridors.

Operations and Maintenance Costs – Expanded Service

Expanded Bus Service

Planning officials at MDT developed a bus service implementation schedule for new bus revenue miles, revenue hours and peak vehicles requirements to meet the PTP targets through 2007. Expanded bus miles, hours and vehicle days were multiplied by the incremental cost per revenue mile and hour and vehicle day, respectively, in order to estimate the additional O&M costs associated with implementing the new bus service. If new service was programmed to be in operation for only a partial year, then the total cost was pro-rated to determine the first year's impact. The full year's impact would be felt the following year of service. A summary of the implementation schedule for new bus revenue miles, revenue hours and peak vehicle requirements through 2007 is presented below.

Exhibit 7 Bus Service Implementation Schedule Annual Increase in Bus Service			
Base Vehicle Miles FY 2003 = 30,926,515			
Fiscal Year	**Bus Revenue Miles**	**Bus Revenue Hours**	**Peak Vehicle Requirement**
2004	2,163,180	174,104	54
2005	3,332,971	261,710	87
2006	3,572,806	262,974	96
2007	3,455,491	263,151	110
Total Incremental Increase	**12,524,448**	**961,939**	**347**
Cumulative Total Miles	**43,450,963**		

The increased bus service requirements described above were multiplied by incremental cost factors per hour, per mile and per peak vehicle day. The incremental cost factors were developed by first determining what cost components from the FY 2004 Budget allocated to bus service were variable costs, and then determining whether the variable cost components were driven by increased vehicle miles, hours or additional vehicle days. For example, bus service operator costs were determined to be variable costs which increase according to the number of hours of bus service, while maintenance costs, in general, were linked to the number of miles a bus is in operation for. Conversely, executive administrative positions were not considered variable costs and were not assumed to increase as additional service is implemented. A summary of the FY 2004 Budget allocation used to determine the incremental cost factors is presented below.

Exhibit 8 Incremental Bus Costs – FY 2004 Budget Allocation			
	Vehicle Hours	**Vehicle Miles**	**Vehicle Days**
Base Service Levels:	2,520,822	32,117,032	209,406
Cost Categories			
Labor	$92,389,500	$24,581,828	$5,034,832
Services	$0	$5,416,795	$3,301,061
Materials	$0	$8,204,400	$362,926
Utilities	$0	$9,523,932	$0
Insurance	$0	$2,249,100	$207,360
Taxes	$0	$805,300	$0
Other	$0	$0	$0
TOTAL	$92,389,500	$50,781,355	$8,906,179
Results: Incremental Cost Factors			
Cost Per Veh. Hour	$36.65		
Cost Per Veh. Mile	$1.58		
Cost Per Peak Veh. Day	$42.53		

In estimating O&M costs for new bus service it is assumed, based upon MDT staff direction, that operating cost savings will be realized by utilizing a public-private partnership in the implementation of 2.4 million revenue miles of MDT's bus service. MDT has assumed that by utilizing innovative service

delivery strategies for approximately 5.5 percent of total service, they can realize substantial operating cost savings on an annual basis of approximately $5 million to $13 million between 2007 and 2023. For modeling purposes, these cost savings are reflected in the bus O&M costs for new service. However, the 5.5 percent target of total revenue miles could apply to any of MDT's routes; new or existing.

Bus O&M costs for new service are projected to increase from $27 million in 2004 to $151 million in 2023. This cost increase is driven both by phased-in new service as well as inflationary cost impacts. The above described savings associated with innovative service delivery strategies are incorporated into these cost estimates. A summary of the bus O&M costs associated with operating the new service through 2023 is presented below.

Exhibit 9
Projected Incremental Bus O&M Costs

	2004-2013	2014-2023	20-Year Total
Incremental Bus O&M Costs	$ 787,111,634	$ 1,286,709,163	$ 2,073,820,797

Expanded Rail Service

Expanded rail service is implemented in two ways: (1) expanded train frequency (i.e. decreasing headways) and service hours on existing routes and (2) new rail service along new rail corridors that are constructed and opened for service. Currently, MDT has increased rail service by opening and providing service at the new Palmetto station and has increased the frequency and hours of service along existing rail corridors. This new service is estimated to cost approximately $11 million to operate and maintain in 2004. However, based upon preliminary results, the 24 hour service is not generating the anticipated ridership and MDT staff has preliminarily determined that 24 hour service is not cost effective. Therefore, 24 hour service is assumed to be phased out in the beginning of calendar year 2004, while the decreased headways will remain. O&M costs in 2005 associated with the decreased headways only are estimated to be $8.7 million.

New rail service and related O&M costs are linked to the capacity and timing of new rail construction. This in turn, as explained below, is linked to certain external factors such as the availability of federal funding. This financial analysis contemplates nine different new rail corridors, eight of which will impact expanded rail O&M costs when opened and operating (the Kendall corridor is planned as bus rapid transit which will impact bus O&M costs). However, because of capital capacity constraints and the availability of federal grant funds that would likely flow to Miami-Dade County over a 20-year period, only six of the rail corridors are assumed constructed and operating within the 20-year planning horizon. The six rail corridors that are assumed constructed and operating by 2023 are listed below:

Exhibit 10 Rail Corridors – Annual O&M Costs		
Project	**Start of Operations**	**Annual O&M Cost (2004$)**
North Corridor	2013	$ 12,504,000
FIU to MIC	2013	$ 23,095,000
MIC to Government Center	2018	$ 17,193,000
Light Rail Downtown to Miami Beach	2023	$ 6,545,000
EH/MIA connector	2013	$ 1,878,000
Kendall Corridor (Dedicated Bus Lanes)	2018	Accounted for under bus service

Annual costs for the North corridor and the Earlington Heights corridor are based upon engineering studies prepared by Parsons Brinkerhoff. Annual operating costs for the other four corridors are based upon existing operating costs for service currently implemented by MDT. The Kendall corridor is currently assumed to introduce no new O&M costs as the new service would be met by re-deploying the existing bus fleet to travel those dedicated bus lanes.

Similar to the methodology used for bus service, rail O&M costs associated with new service were estimated on an "incremental" cost basis and are based upon FY 2004 Budget estimates. Incremental costs were determined based upon total and variable O&M costs allocated to rail and the number of track miles currently operated by MDT. The underlying assumption with this methodology is that the new rail service will operate similar to existing service. While preliminary in nature, this O&M cost methodology had to be used in lieu of any current engineering study for many of the proposed rail corridors. A summary of the incremental cost methodology is presented below.

Exhibit 11 Incremental Rail Cost – Cost Per Track Mile	
Fully Allocated Budget FY 2004 – Rail	$67,624,468
Variable Component - Percent	85%
Variable Component of Budget FY 2004 – Rail	$57,480,798
Rail Track Miles - FY 2004	22.4
Variable Cost Per New Track Mile	**$2,566,107**

For those rail corridors that do not have a current engineering study associated with it, Incremental rail O&M costs associated with new rail service was determined by multiplying the variable cost per new track mile by the number of new track miles along the specific corridor. The variable cost factor described above was reduced by half for the Downtown Miami to Miami Beach corridor because it is currently planned as light rail, whereas the above variable cost calculation is based upon heavy rail service.

Total O&M costs for expanded rail service are estimated to increase from approximately $11 million in 2004 to $137 million in 2023. However, most of the new annual costs do not begin until FY 2013 when the first two rail corridors are assumed completed and opened for service. A summary of O&M costs associated with new rail service (both increased frequency and hours along existing corridors and new rail corridor service) through 2023 is presented below.

Exhibit 12 Projected Incremental Rail O&M Costs			
	2004-2013	2014-2023	20-Year Total
Expanded Rail Service O&M Costs	$ 154,800,511	$ 971,071,012	$ 1,125,871,523

Operating Revenues – Expanded Service

With new bus and rail service, MDT will collect additional revenues in the form of farebox revenue. It is not known at this time for most new bus or rail service what the increased ridership will likely be. Consequently, it is not possible to project farebox revenues based on projected ridership and fares. As an alternative, the same assumption was used to project estimated revenues associated with new bus and rail service. In both cases it is assumed that the farebox recovery ratio (farebox revenue divided by operating costs) for new service will equal the farebox recovery ratio for the continuation of existing service with both modes, respectively.

Estimates of new ridership and revenue have been projected for the North Corridor and Earlington Heights corridor through an engineering study prepared by Parsons Brinkerhoff. Based upon a conservative discounting of projected ridership, the introduction of the North corridor and the Earlington Heights corridor is estimated to generate approximately $7.6 million (2004 dollars) annually.

With the introduction of fare increases beginning in 2007 and continuing each five years thereafter through 2023, the farebox recovery ratio for both bus and rail fully recover within the time frame of this pro forma. Specifically, the bus farebox recovery ratio is projected to increase from 27 percent in 2004 to 34 percent in 2015 and continues to increase to 43 percent by 2023. Similarly, the rail farebox recovery ratio is projected to increase from 15 percent in 2004 to 28 percent in 2023 and 35 percent by 2023.

Based upon projected O&M costs and assumed farebox recovery ratios through 2023, a summary of incremental operating revenue associated with new bus and rail service, respectively, is presented below. Incremental bus operating revenue is projected to increase from $7.2 million in 2004 to $71 million in 2023. Incremental rail operating revenue is projected to increase from $800,000 in 2004 to $58.2 million in 2023. These sharp increases in expanded bus and rail farebox revenue reflect the fast paced implementation schedule of new service; with new service, comes new revenues. They also reflect the periodic fare increases every five years beginning 2007.

Exhibit 13 Projected Incremental Operating Revenue			
Mode	2004-2013	2014-2023	20-Year Total
Incremental Bus Operating Revenue	$ 258,455,882	$ 549,119,006	$ 807,574,888
Incremental Rail Operating Revenue	$ 39,173,024	$ 393,894,794	$ 433,067,818

Summary of MDT Operating Results

As described above, MDT has determined it necessary to increase fares in the future in order to reconstitute the farebox recovery ratio (i.e. the portion of O&M expenses recovered through farebox revenues) for both bus and rail. Recent years have seen bus and rail O&M costs outpace ridership, leading to declining farebox recovery ratios.

Presented below are four historical years of O&M costs, operating revenues and the resulting farebox recovery ratios, along with the projected 10-year summary estimates for the years 2004-2013 and 2014-2023. The farebox recovery ratios for the 10-year summary estimates represent average ratios for those time periods.

Exhibit 14

Historical & Projected Farebox Recovery (Millions)

Mode	2000	2001	2002	2003	2004-2013	2014-2023
BUS						
Total Bus O&M Costs	$150.9	$161.9	$164.3	$187.7	$3,047	$4,549
Total Bus Passenger Revenue[1]	$54.5	$55.9	$49.1	$48.8	$913	$1,774
Farebox Recovery Ratio	36.1%	34.5%	29.9%	26.0%	30.0%	39.0%
RAIL						
Total Rail O&M Costs	$50.9	$57.8	$61.5	$70.2	$982	$2,155
Total Rail Passenger Revenue[1]	$14.3	$15.7	$13.5	$13.3	$191	$682
Farebox Recovery Ratio	28.1%	27.2%	21.9%	18.9%	19.4%	31.6%

1. Bus revenue includes 77 percent of pass revenue and rail revenue includes 23 percent of pass revenue for years 2004 through 2023.

As described above in Exhibit 14, the farebox recovery ratio for bus has been steadily declining over the last four years, from 36 percent in 2000 to 26 percent in 2003. Similarly for rail, the recovery ratio has declined from 28 percent to 19 percent in 2003. This declining trend is the result of increasing O&M costs, presumably tied to increasing service, combined with slow annual increase in boardings in bus and rail.

The trend of increasing O&M costs together with the slow increase in passenger boardings is described below in Exhibit 15. It is important to focus on O&M cost growth compared to growth in boardings, since if no fare increases are implemented, the only factor driving increasing operating revenues is increasing boardings.

Exhibit 15						
O&M Cost Growth vs Passenger Boarding Growth Rate						
Mode	**2000**	**2001**	**2002**	**2003**	**2004-2013**	**2014-2023**
BUS						
Total Bus O&M Costs	$150.9	$161.9	$164.3	$187.7	$3,047	$4,549
O&M Cost Growth Rate		7.3%	1.5%	14.3%	6.8%	3.6%
Total Bus Boardings	65.8	65.4	63.4	64.2	N/A	N/A
Boardings Growth Rate[1]		-0.6%	-3.1%	1.3%	1.17%	1.17%
RAIL						
Total Rail O&M Costs	$50.9	$57.8	$61.5	$70.2	$982	$2,156
O&M Cost Growth Rate		13.7%	6.3%	14.2%	8.24%	5.75%
Total Rail Boardings	14.1	13.7	13.8	14.1	N/A	N/A
Boardings Growth Rate[1]		-2.4%	0.1%	2.7%	1.17%	1.17%

1. Bus and rail boardings growth rates for 2004 through 2023 reflects the growth rate in full cash fare boardings as an indicator. It does not include transfers or tokens.

As described in Exhibit 15, Bus O&M costs have increased significantly between 2000 and 2003 at a compounded annual growth rate of 7.6 percent through 2003. Conversely, growth in bus boardings has actually decreased between 2000 and 2003 with a compounded annual growth rate of negative 0.8 percent through 2003. The sharpest rise in O&M costs occurred in 2003, as costs increased 14.3 percent. This was largely due to the increase in new bus service under the PTP. In this same year, however, bus boardings grew only by 1.3 percent. With slow boardings growth, the only way to maintain structural balance between O&M costs and revenues is through periodic fare increases. As MDT examines new ways to increase boardings, then the need for fare increases may be re-examined.

The same trend emerges for rail service. The compound annual growth rate in rail O&M costs was 11.3 percent between 2000 and 2003 and only 0.1 percent for boardings growth. This similarly leads to a decreasing farebox recovery ratio and an increasing need for cross subsidization to support rail O&M costs.

The results from the statistics presented above have led MDT staff to preliminarily determine that fare increases, beginning in 2007, are necessary. If O&M costs continue to outpace passenger boardings, then the need for cross-subsidy from other revenue sources (including sales tax proceeds) similarly increase, which will compromise MDT's ability to implement their capital improvement program.

These preliminary indications suggest that MDT will strongly benefit from a travel demand ridership study to determine how much bus and rail service to deliver, where to implement specific routes, and how to best meet the demand with constrained assets.

MDT Capital Improvement Program & Costs

MDT has two major components to its ongoing capital improvement program: (1) bus purchase for renewal and replacement and, (2) new rail construction and rehabilitation. Each component of the capital program is described below. In addition to these system related capital improvements, MDT has included $470 million in public works capital improvements to be funded between 2004 and 2012. The costs of these improvements have been incorporated into this financial analysis.

Bus Capital Improvements

MDT had an existing fleet of 875 buses (687 large buses & 188 small buses) as of FY 2003 end. Within the existing fleet are some "additional" buses that exceed the FY 2003 bus requirement and are available to meet expanding needs in future years. Specifically, MDT has 52 large buses and 60 small buses within its existing reserve to meet future requirements.

New Bus Acquisition Costs

MDT planning staff provided the bus requirements associated with the increased bus service through 2007. A "spare ratio" of 20 percent was added to the bus requirements in order to determine total new bus acquisition requirements. Any additional buses in the existing fleet were first applied to meet near term needs and offset purchasing requirements. In this way, "net" purchasing requirements were determined for new bus acquisition for the implementation of the PTP. A summary of new bus purchasing requirements is described below.

Exhibit 16
New Bus Service – Bus Purchase Requirements

	Additional Bus Service Requirements		"Net" Purchasing Requirements	
FY	Large Bus - Qnty	Small Bus - Qnty	Large Bus - Qnty	Small Bus - Qnty
2004	29	36	0	0
2005	38	66	15	42
2006	55	60	55	60
2007	11	133	11	133
Total	**133**	**295**	**81**	**235**

New bus purchase requirements were multiplied by assumed unit cost purchase prices, described below, to estimate bus purchase costs through 2008. These bus purchase costs are based upon MDT's recent experience with bus acquisition.

Exhibit 17
Bus Purchase Costs

40-ft. Buses		30-ft. Buses	
Cost per bus to year 2005	$ 285,000	Cost per bus year 2003	$ 260,000
Cost per bus from 06 to 10	293,550	Cost per bus to year 2005	165,000
Cost per bus from 11 to 15	302,357	Cost per bus from 06 to 10	169,950
Cost per bus from 16 to 20	311,427	Cost per bus from 11 to 15	175,049
Cost per bus from 21 to 23	320,770	Cost per bus from 16 to 20	180,300
		Cost per bus from 21 to 23	185,709

New bus acquisition and related capital costs extend through 2007, at which point all new planned bus service has been implemented. In addition to the net purchasing requirements for new buses listed above, MDT still has to pay for 95 new large buses and 25 small buses that have already been delivered and are part of their existing fleet. These are factored into the total new bus capital costs. Total new bus acquisition costs through 2007 are summarized below.

Exhibit 18
Total New Bus Purchase Costs

	2004-2007
New Bus Purchase Costs	$ 93,154,650

Replacement & Renewal Bus Acquisition Costs

MDT's existing fleet was documented according to the model and date of purchase to determine an ongoing renewal and replacement bus acquisition schedule. Based on the quality of the 40-ft and 30-ft buses, a 12 year life for each vehicle was assumed for replacement purposes. New bus acquisition was factored into long term replacement needs and an annual replacement schedule was developed through 2023.

Annual replacement bus acquisition costs were determined according to the replacement schedule and using the bus purchase unit costs described above. Total costs for the second 10-year period show an increase as the expanded bus fleet needs replacement after 12 years of operations. A summary of total bus replacement purchase costs is presented below.

Exhibit 19
Total Bus Replacement Purchase Costs

	2004-2013	**2014-2023**	**20-Year Total**
Bus Replacement Costs	$ 155,565,602	$ 290,019,177	$ 445,584,779

Rail Capital Improvements

Nine rail corridors are currently contemplated in this financial analysis with project capital costs ranging from $221 million (2003 dollars) to $1.08 billion (2003 dollars). The combined nine rail corridors comprise a total capital cost estimated to be $5.27 billion (2003 dollars). This represents a very large capital rail program which will raise two primary questions from the Federal Transit Administration (FTA). First will be the related question of operating this size of a system and identifying the sufficient and recurring resources to meet the annual operating requirements when the corridors come on line. The second issue pertains to the amount of annual funds that Miami Dade could expect to receive from the FTA and the total amount of Federal funding that Miami-Dade could expect over 20 years.

The expectation of one or two Full Funding Grant Agreement (FFGA – the mechanism through which the FTA negotiates its participation level and the annual reimbursement levels) in support of a $1billion program, for example, is a reasonable expectation. Within this size program, the FTA could be expected to pay approximately 50 percent ($500 million) over seven to ten years with an annual amount not likely to exceed $100 million. As MDT's rail program approaches the total cost of $5.27 billion, the federal participation assumptions begin to break down. This size program would entail Federal

participation in the amount exceeding $2.5 billion (and more when inflationary impacts are accounted for) over 20 years and would require the issuance of numerous and concurrent FFGA's from FTA.

While the FTA does have a history of issuing concurrent FFGA's to agencies with a strong historical performance of rail implementation (e.g. Chicago's CTA has numerous FFGA's currently negotiated with the FTA), the assumption of concurrent FFGA's will need to be further negotiated with FTA. Additionally, the total amount of federal funds over a 20-year period will be the subject of negotiation. Currently, it is assumed that the FTA provides a total of $1.36 billion through 2023 that is paid directly to project reimbursement, and an additional $466 million to reimburse commercial paper proceeds that are used in years where the federal funding amount exceeds $100 million. In total, the FTA is assumed to pay $1.8 billion to Miami Dade transit between 2004 and 2023. This total corresponds to the 50 percent federal participation level.

Listed below are the nine rail projects contemplated in this financial analysis, their capital costs and the construction start dates assumed in this analysis. Three of the construction start dates are outside the horizon of this financial analysis. This was done as a means to adhere to an initial set of reasonable implementation assumptions consistent with a 50 percent federal funding contribution level.

Exhibit 20
Rail Program Capital Costs

Project	Capital Cost (2003$)	Construction Start Date
North Corridor	$ 730,429,187	2004
FIU to MIC	$ 1,082,675,107	2004
MIC to Government Center	$ 594,415,531	2008
LR Dtown to Miami Beach	$ 259,140,481	2014
EH/MIA connector	$ 221,387,206	2004
Kendall Corridor (Decicated Bus Lane)	$ 239,511,213	2007
Northeast Corridor	$ 843,415,500	2028
MIC/Douglas Rd.	$ 296,998,955	2028
Metrorail to Florida City	$ 1,003,611,400	2028
Total Cost (2003$)	**$ 5,271,584,580**	

For some of the projects, MDT staff provided capital expenditure draw schedules stated in inflated dollars. For those without a specific draw schedule, a generic 10-year capital expenditure schedule was used to determine annual capital requirements. As capital draws are required for each corridor, an inflationary factor of 3.0 percent was applied to state the capital requirements in inflated dollars.

In addition to new rail capital construction, MDT has included estimated capital needs for rail rehabilitation and other capital projects in their capital program totaling $990 million ($400 million for capital needs through 2015 and an additional $590 million for capital needs beginning in 2020). Also, MDT has assumed $470 million in capital costs for Public Works related projects that are reflected in this financial analysis. A summary of the rail capital costs through 2023 are presented below.

Exhibit 21
MDT Rail Capital Improvement Costs (Inflated $)

Capital Component	2004-2013	2014-2023	20-Year Total
North Corridor	$ 873,000,000.00	$ -	$ 873,000,000
FIU to MIC	1,294,000,000	-	1,294,000,000
MIC to Government Center	316,996,008	509,003,992	826,000,000
LR Dtown to Miami Beach	-	430,000,000	430,000,000
EH/MIA connector	260,000,000	-	260,000,000
Kendall Corridor (Decicated Bus Lane)	156,580,000	168,560,000	325,140,000
Other MDTA Capital Projects	330,000,000	660,824,000	990,824,000
Public Works Projects	470,000,000	-	470,000,000
Total	**$ 3,700,576,008.15**	**$ 1,768,387,991.85**	**$ 5,468,964,000.00**

As described above, a majority of the rail capital costs are incurred during the first 10 years of the rail capital program. This is a result of accelerating rail construction so as to provide new rail service as soon as possible. It should be noted, that while a majority of costs are incurred in the first 10 years of the program, Federal reimbursements are assumed to flow through 2023 as FTA reimburses any commercial paper proceeds used to supplement the timing of federal funds.

MDT Capital Improvement Program Funding

There are specific Federal and State funding sources assumed available to support MDT's capital funding program through 2023. Federal and State funding sources and participation levels are described in this section.

Bus Capital Funding Sources

Two federal funding sources are assumed to support bus acquisition through 2023:

- Federal Section 5309 Bus Capital Grant Funds
- Federal Section 5307 Urbanized Area Grant Funds

The Federal Section 5309 bus grant program is a discretionary grant program whereby transit agencies "compete" for funds from a limited pool of grant funds. These funds are specifically designated to support bus acquisition. Based upon historical trends for MDT it is assumed that MDT will receive $3 million annually through 2008 from this Federal program to support bus purchase needs. Beginning in 2009, the annual funding level is assumed to increase to $5 million as MDT's bus fleet and funding needs increase.

Federal Section 5307 grant funds are "formula" funds that are apportioned to Miami Dade County based upon regional population density and the amount of service operated by MDT. These funds may be used to meet any capital requirement of MDT, including bus acquisition, and may also be applied to meet "preventative maintenance" needs throughout the system. It is estimated that MDT will receive approximately $40 million in Section 5307 funds in 2004. Approximately $2 million, annually, of those funds are assumed to be used directly for bus acquisition through 2023.

MDT currently has a commitment from the State of Florida Department of Transportation (FDOT) to provide a capital grant in the amount of $6.6 million in 2004 to meet bus capital needs. This FDOT grant for bus capital is considered a one-time grant and no other State funds are assumed for bus capital through 2023.

Any additional funding needs to meet bus acquisition is assumed to be the responsibility of MDT. MDT can meet the annual funding needs on a cash basis or they can finance the capital requirement with the use of bond proceeds or lease financing. Currently, as explained further below, all "local" bus capital funding requirements are assumed to be financed through a bus financing program.

Exhibit 22
Bus Capital Funding Sources

Bus Capital Funding Sources	2004-2013	2014-2023	20-Year Total
Federal 5309 Bus Funds	$ 36,150,108	$ 44,626,497	$ 80,776,605
Federal 5307 Grant Funds	14,000,000	16,000,000	30,000,000
State Funds	6,660,000	-	6,660,000
Bus Financing Proceeds	191,910,144	229,392,680	421,302,824
Total	$ 248,720,252	$ 290,019,177	$ 538,739,429

Rail Capital Funding Sources

MDT will compete for discretionary Federal capital funds to support construction of new rail corridors through the Federal Section 5309 Rail Capital Program. Currently the statutory maximum funding level from the Section 5309 Rail Program that can be used to fund a specific construction project is 80 percent. However, as a matter of practice, recent FFGAs issued by the FTA support a Federal participation level of 50 percent, on average. Therefore, a 50 percent funding level from the FTA is assumed in this analysis to be available to support rail capital projects through 2023. Additionally, FTA has advised that an agency should not assume that it would receive no more than $100 million in a given year. This annual cap on Federal funds has been incorporated into our funding and financing assumptions. Specifically, MDT is assumed to issue commercial paper to bridge the funding gap when Federal funds do not flow sufficiently to meet annual requirements. This is explained in greater detail below.

The remaining capital costs that are not covered by Federal funds are assumed to be split evenly between FDOT (25 percent) and Miami Dade County (25 percent). The 25 percent of project costs paid by Miami Dade County are assumed to bond financed over 30 years. The financing strategies incorporated into this model are explained in greater detail below.

The other two components of MDT's rail capital program—rail rehabilitation and the Public Works capital improvements—do not have a specific funding source and are assumed to be funded with a combination of cash and with proceeds from long term sales tax revenue bonds.

A summary of the rail capital funding sources are described below.

Exhibit 23
Rail Capital Funding Sources

Rail Capital Funding Sources	2004-2013	2014-2023	20-Year Total
Federal 5309 Grant Funds	$ 822,652,114	$ 539,460,841	$ 1,362,112,955
State & Other Funds	725,144,002	276,890,998	1,002,035,000
Bond Proceeds - Rail Projects	725,144,002	291,212,153	1,016,356,155
Bond Proceeds - Other MDTA Projects	330,000,000	660,824,000	990,824,000
Bond Proceeds - Public Works Projects	449,681,788	-	449,681,788
Cash - Pay Go	20,318,212	-	20,318,212
Commercial Paper Proceeds	627,635,890	-	627,635,890
Total	**$ 3,700,576,008**	**$ 1,768,387,992**	**$ 5,468,964,000**

Additional MDT Funding Sources

MDT receives subsidy funding from various Federal, State and local funding sources. The five subsidy sources are:

- Federal Section 5307 Urban Formula funds
- Federal Section 5309 Rail Modernization funds
- State Transportation Disadvantaged and Corridor Enhancement funds
- State Block Grant funds
- General Fund subsidy
- Local Option Gas Tax (LOGT)
- Sales tax revenue

As noted previously, Federal Section 5307 grant funds are "formula" funds that are apportioned to Miami Dade County and may be used to meet any capital requirement of MDT, including bus acquisition, and may also be applied to meet "preventative maintenance" needs throughout the system. It is estimated that MDT will receive approximately $40 million in Section 5307 funds in 2004. These federal funds are assumed to grow at an annual rate of 4.0 percent through 2023.

Federal section 5309 Rail Modernization funds are formula grant funds provided to regions throughout the U.S. that currently have rail systems in place. These funds may be used for capital renewal and ongoing maintenance of the existing rail system. It is estimated that MDT will receive approximately $12 million in 2004. These funds are estimated to grow at an annual rate of 3.0 percent through 2013 and 4.0 percent thereafter as MDT begins additional rail operations.

MDT receives state funds to support the transportation disadvantaged and to implement corridor enhancements throughout the system. These funds are primarily used for ongoing maintenance needs. MDT is estimated to receive approximately 6 million in these funds from the State in 2004, and it is assumed that these funds grow at an annual rate of 1.6 percent through 2023.

State Block Grant funds flow to MDT from FDOT and may only be used to meet operating costs. MDT is estimated to receive $16.3 million in 2004 in these State funds which are estimated to increase at an annual rate of approximately 1.60 percent.

MDT receives an operating subsidy from the Miami Dade General Fund and is scheduled to receive $118.6 million in 2004. It is assumed that the General Fund Subsidy from the County increases at an annual rate of 3.5 percent through 2023. The base amount which is assumed to increase annually does not include the $4.57 million received from the General Fund to support Tri-Rail costs. This amount is assumed to remain constant through 2023.

MDT also receives a portion of the LOGT for system support and is estimated to receive $14.8 million in 2004. It assumed that the LOGT contribution increases at an annual rate of 1.5 percent through 2023.

MDT receives a portion (80 percent) of the sales tax revenue from the newly passed half-cent sales tax in Miami Dade County. Sales tax revenues are estimated to be approximately $163 million in 2004 and are projected to increase to $483 million through 2023. This represents an average annual growth rate of approximately 5.9 percent through 2023.

Financing Strategies

MDT has undertaken a significant increase in bus and rail service operations, apart from capital investment, which requires a substantial amount of funding support from available system wide funds. Consequently, in an attempt to accommodate the immediate cash flow needs of MDT, numerous financing strategies have been incorporated into this financial analysis to support MDT's capital program.

Specifically, three financing strategies are used in the financial analysis to amortize capital costs over time and to meet short term funding requirements: (1) sales tax revenue bonds, (2) bus lease financing program and (3) a commercial paper program.

These financing strategies are preliminary in nature and have been incorporated into the PTP pro forma without a thorough understanding of what specific projects need to be funded in MDT's capital program and whether those projects are appropriate for long-term financing. Specifically, PFM has received very little information regarding the specific Public Works projects that are to be funded through MDT. If those projects consist of traffic light improvements and are small scale investments, they may not be appropriate candidates for long-term financing. The financing strategies and amount of bond financing incorporated into the pro forma will likely change as information on specific projects is provided to PFM.

Sales Tax Revenue Bonds

Sales tax revenue bonds are assumed to be issued to finance the local portion of all new rail capital projects, to finance any rehabilitation and ongoing capital needs, and to finance a portion of the Public Works capital improvement projects funded through MDT. The sales tax revenue bonds would be supported by a senior lien pledge against gross annual sales tax revenues. Currently, the financial analysis assumes that revenue bonds are issued in each year that there is a capital requirement. The bonds are structured with level debt service over a 30-year period. Stated below are the general financing assumptions for the sales tax bond program.

- Security pledge: Gross sales tax revenues
- Term: 30-years
- Structure: Level debt service
- Interest Rate: Current MMD yield curve (with 50 basis point historical adjustment)
- Insurance premium: 50 basis points
- Debt service reserve fund: Maximum annual debt service
- Underwriter spread: $6.00 per bond
- Cost of issuance: $150,000

Total sales tax bond proceeds issued within the parameters of this analysis are described above in Exhibit 23.

Bus Financing Program

All bus acquisition is assumed to be financed under a lease program that is secured, on a subordinate basis, by gross sales tax revenues. The term of the financing is assumed to be 12 years, associated with the average life of a bus, and is structured as level payments. No debt service reserve fund is assumed with the lease structure nor are there other costs included (e.g. underwriter's discount) that are generally part of a bond transaction. The total amount of bus acquisition costs that are assumed to be financed is described above in Exhibit 22.

Commercial Paper Program

The financial analysis has incorporated the use of a commercial paper program as a "bridge financing" mechanism to cover the annual shortfalls, if any, in Federal funding during the rail construction program. As noted previously, it is assumed that Federal funds cover 50 percent of new rail construction costs, but cannot exceed $100 million in a particular year. When the Federal 50 percent exceeds $100 million in a given year, then proceeds are assumed to be drawn from a commercial paper program and carried until Federal funds are available to repay the commercial paper. Additionally interest is carried forward under this program and, under the Section 5309 grant program, is eligible to be repaid with Federal funds.

A total of $627 million in commercial paper proceeds are assumed to be drawn to cover Federal funding shortfalls through 2023.

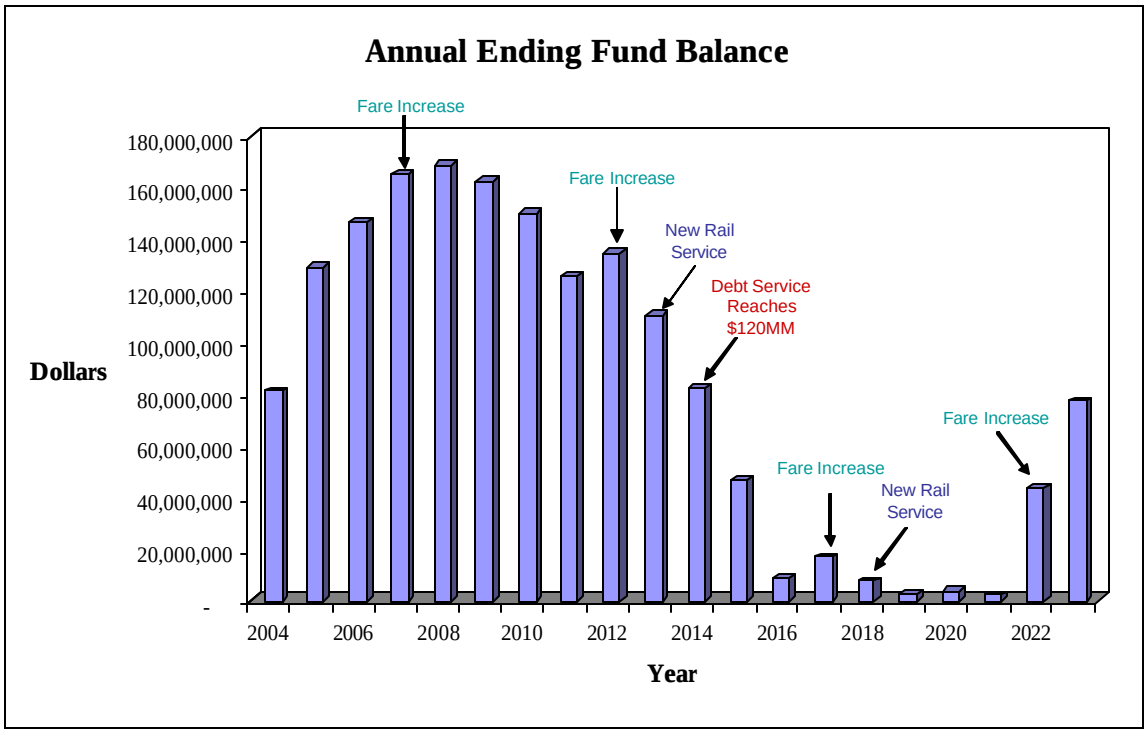
Summary of Program Wide Results

Based upon the program implementation assumptions detailed above, MDT can successfully implement the PTP program and maintain a positive fund balance in every year through 2023. MDT's fund balance is projected to total $81 million in 2004, and is projected to decrease to $2.3 million by 2021. In 2023, the fund balance is projected to recover and total $77 million by the end of that year. Additionally, PFM, upon MDT staff request, extended the PTP pro forma through 2033 which demonstrated the continued upward trend in the annual fund balance through the 30-year period. These results are explained in detail below.

While MDT maintains a positive fund balance in each year, the rapidly declining trend towards 2016 highlights the fact that MDT is embarking on a very large program expansion that requires significant resources and the accumulation of early-year sales tax proceeds in anticipation of program expansion. Generally, it is more desirable to see some consistency in the annual ending balance which incorporates operating and capital reserves. Additionally, a program with a more consistent fund balance will use more cash in financing the capital program, as opposed to a majority funded with bond proceeds. In order for MDT to increase the proportion of cash funding towards the PTP plan and smooth out the annual fund balance, a slower phasing of the rail capital program would be required.

The projected annual ending fund balance for each year between 2004 through 2023 is presented below.

Exhibit 24. Annual Ending Fund Balance: 2004 – 2023

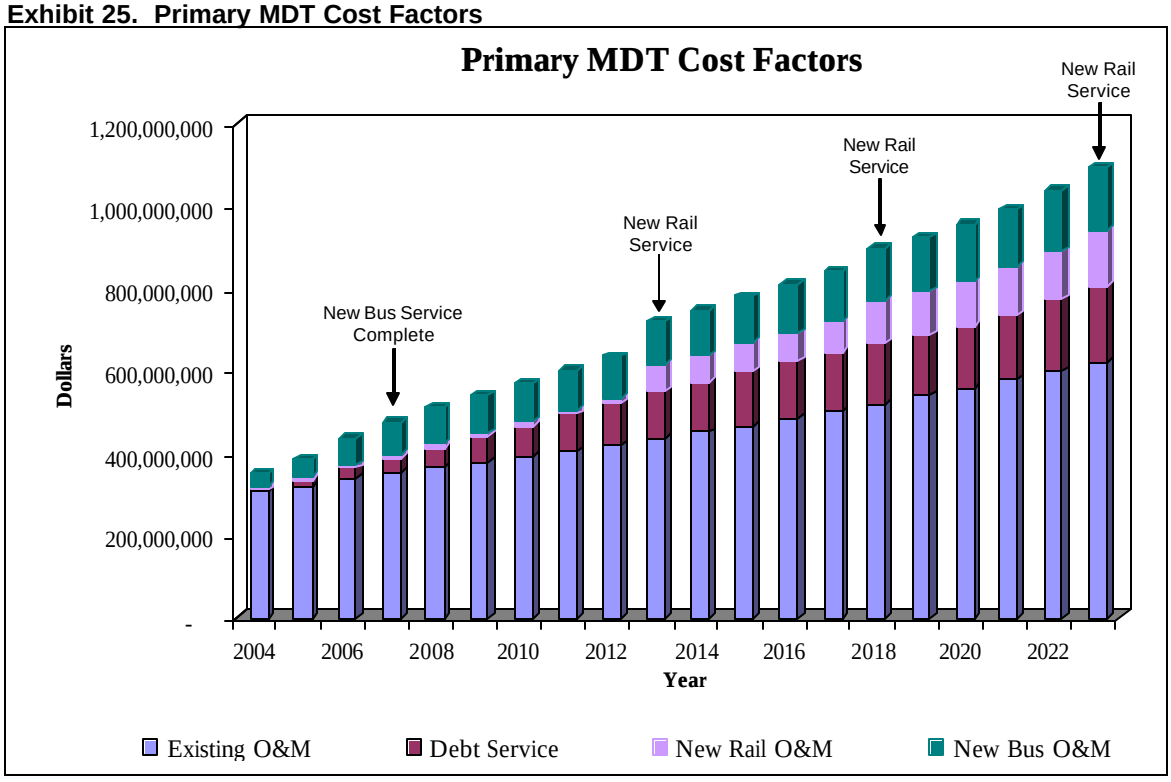


While there are numerous components contributing to the annual results of the PTP, there are a few major factors that drive the near and long term trends for revenues and expenditures and, therefore, impact the successful implementation of the PTP. A brief summary discussion of MDT's primary expenditures and revenues is presented below.

Summary Results: MDT Expenditures

There are two components that drive MDT's costs over the long term: (1) O&M costs for new and existing service and, (2) debt service associated with financing the capital program. MDT is currently planning that all new bus service will be implemented by 2007. Consequently, there is an initial ramp up of O&M costs in the first four years of the pro forma. Additionally, there is a sharp increase in O&M costs as various rail corridors open for service. The North corridor, the Earlington Heights corridor and the FIU to MIC corridor all begin service in 2013. The MIC to Government Center corridor begins service in 2018 and the Downtown to Miami Beach light rail corridor begins service in 2023. In each of those years, MDT's O&M costs increase substantially.

Exhibit 25. Primary MDT Cost Factors



Annual debt service requirements begin to quickly increase as the rail capital program progresses. Annual debt service increases from $12 million in 2005 to $133 million in 2015 as a substantial portion of the rail program is built and financed. While existing O&M costs rise comparatively sharply through 2006, accounting for the known labor increases, they smooth out through the longer years, growing at a steady 3.6 percent annually.

As expenditures increase at a rapid pace during the implementation of the PTP, it is necessary for the major revenue sources to keep a similar pace in order to provide structural balance and financial feasibility. The primary revenue sources are summarized below.

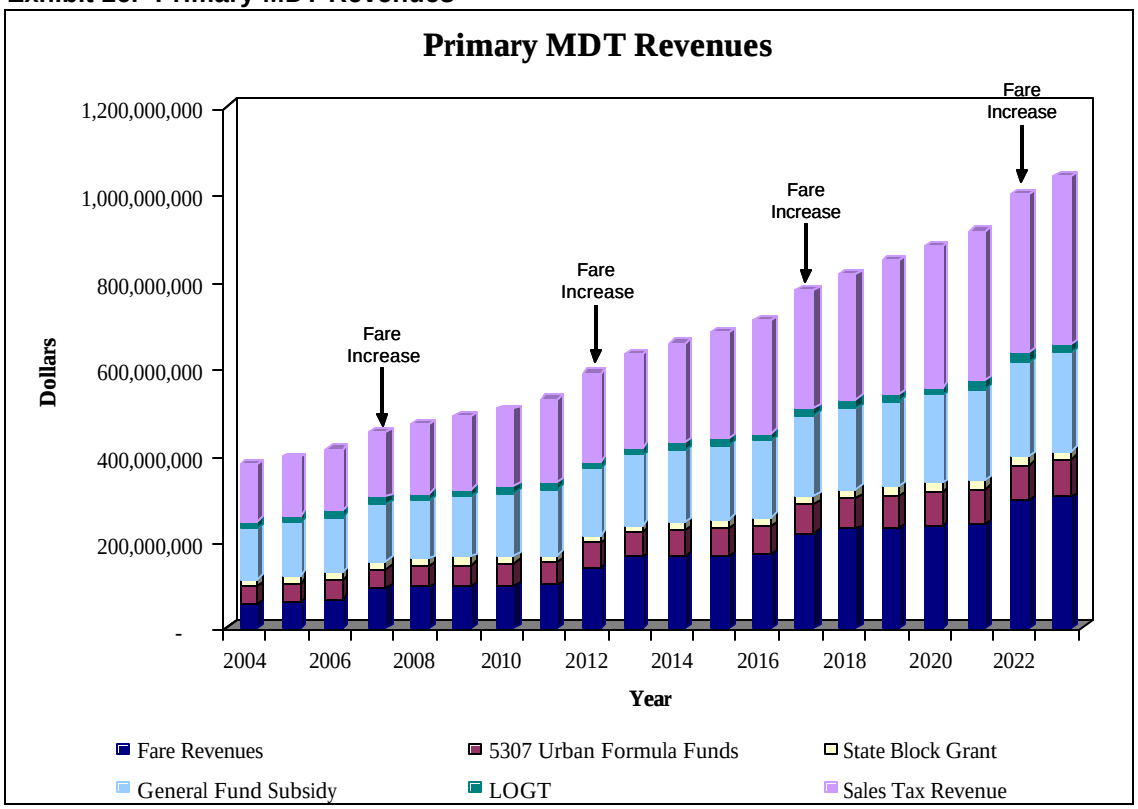
Summary Results: MDT Revenues

All of MDT's revenue sources are critical to the agency's successful implementation of the PTP. However, certain funding sources, such as federal 5309 grant funds are used for very specific purposes and will be offset by specific costs (i.e. rail capital). They cannot be used to meet operating costs or to fund ongoing rehabilitation costs, and as MDT's recurring costs increase, 5309 grant funds will not be a

revenue source to create structural balance. In focusing on MDT's "primary" revenue sources, the emphasis is on flexible, recurring revenue sources that have growth potential. Those primary revenue sources are listed below and presented in Exhibit 26:

- Fare revenues
- Section 5307 Urban Formula funds
- State Block Grant funds
- General Fund subsidy funds
- Local Option Gas Tax funds
- Sales Tax revenue

Exhibit 26. Primary MDT Revenues



Most of the primary revenue sources depicted in Exhibit 26 grow at a steady rate and, generally, keep pace with the growth in annual O&M costs and annual debt service requirements. For example, as O&M costs on existing service are assumed to grow at 3.6 percent annually (beginning in 2007 after the impacts of the current labor contracts), the growth in the General Fund subsidy increases 3.5 percent annually and the Section 5307 Urban Formula funds increase at 4.0 percent annually. This structural balance between growth in primary revenues and recurring costs is essential to the financial health of MDT. The strong growth in annual sales tax revenue at 5.9 percent, growing from a base of $163 million in 2004, is a crucial component in supporting the implementation of new service and supporting the increasing debt service costs with the implementation of the capital component of the PTP.

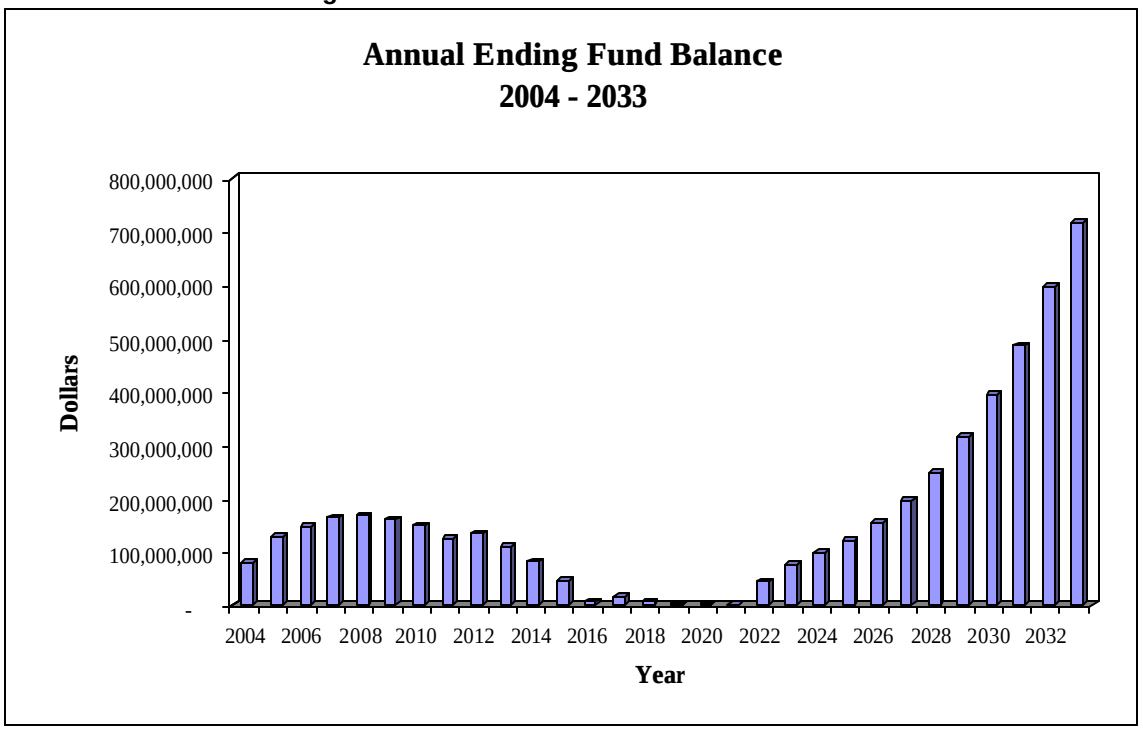
Finally, periodic fare increases serve as a revenue source that is within the control of MDT and County officials to increase on an as-needed basis to meet the funding requirements of new service. As noted above in Exhibit 25, annual costs increase sharply with rising debt service and with each new opening of rail service. Periodic fare increases serve as an effective revenue tool to match the step function increases in O&M costs with similar step function increases in revenues. The implementation of periodic fare increases proves essential to the long term financial feasibility of the PTP program.

Extension of Results to 2033

The results of the analysis were extended to 2033 to determine the ongoing trend of the ending fund balance based upon the same set of assumptions described above. The general growth rates for revenues and expenses still apply through 2033, but no new fare increases are assumed beyond 2022. No additional fare increases were determined necessary as no new bus or rail service is opening between 2023 and 2033.

As depicted below in Exhibit 27, the 30-year projection results in an increasing annual fund balance through 2033. The ending fund balance increases from $77 million in 2023 to $716 million in 2033. There are several reasons for this increasing positive trend. First, the rail capital program is assumed to slow down between 2024 and 2027, keeping annual debt service levels constant in those years. Similarly, as capital expansion slows, no new rail operating costs are assumed after 2023. Therefore, while system operating costs are increasing at 3.6 percent per year, the assumed 6.0 percent growth rate of the sales tax begins to outpace costs, leading to an increasing ending fund balance.

Exhibit 27. Annual Ending Fund Balance: 2004 - 2033



It should be noted that while the 30-year projection of program assumptions results in a positive trend, the variance of those assumptions regarding probable outcomes similarly increases as the time-frame is extended. Consequently, while the 30-year projection may provide an order-of-magnitude "snap-shot" of possible results, the reliability of those results becomes increasingly speculative as the time-frame is extended.

Conclusion

As noted previously, based upon specific program implementation assumptions, MDT can successfully implement the PTP program and maintain a positive fund balance in every year through 2023. Detailed alternatives analysis was performed, in collaboration with MDT and County staff, to identify the critical variable components to the PTP implementation and to devise a financially feasible plan. Based upon this analysis, some of the more critical components and assumptions underlying this pro forma are:

Costs

- Cost estimates & timing of rail construction and operations
- Implementation schedule and amount of new bus service
- Long term growth rate of approximately 3.6 percent for O&M costs

Revenues

- Federal funding participation of 50 percent on MDT's large rail capital program
- State & other funding participation of 25 percent of rail capital program
- General Fund subsidy increase of 3.5 percent annually
- Strong sales tax growth of 5.9 percent annually
- Fare increases in years 2007, 2012, 2017 and 2022

As the assumptions underlying these critical components change, so too will the financial implications of the current PTP plan. For example, if negotiations with the FTA do not yield sufficient federal funding for each corridor within the current planning time frame, then certain corridors will have to be delayed, or additional non-federal funds will need to be secured. If recurring revenue sources do not keep pace at currently assumed levels, then a new revenue source will need to be identified, or recurring MDT costs will have to be reduced.

As the financial feasibility of this PTP plan is contingent on a host of assumptions, this analysis represents a "snap-shot" of the implementation of the PTP plan. As the implementation of the PTP plan progresses, the assumptions will become better defined and will undoubtedly change. As assumptions change, this version of the PTP plan will change with them. As such, the financial plan underlying the implementation of the PTP program is a dynamic plan that is part of a larger dynamic process that will most likely need to be re-evaluated and updated on an annual basis.